



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0653; Project Identifier AD-2021-00170-R]

RIN 2120-AA64

Airworthiness Directives; MD Helicopters Inc. (MDHI) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for MD Helicopters Inc. (MDHI), Model 369D, 369E, 369F, 369FF, 369H, 369HE, 369HM, 369HS, 500N, and 600N helicopters. This proposed AD was prompted by a report of a spiral crack in the pilot-to-copilot tail rotor torque tube (torque tube). This proposed AD would require a one-time visual and recurring borescope inspections of the torque tube and depending on the results, removing the torque tube from service. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact MD Helicopters, Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ

85215-9734; telephone (800) 388-3378; fax (480) 346-6813; or at <https://www.mdhelicopters.com>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0653; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Payman Soltani, Aerospace Engineer, Airframe Section, Los Angeles ACO Branch, Compliance & Airworthiness Division, FAA, 3960 Paramount Blvd., Lakewood, CA 90712; telephone (562) 627-5313; email payman.soltani@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0653; Project Identifier AD-2021-00170-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Payman Soltani, Aerospace Engineer, Airframe Section, Los Angeles ACO Branch, Compliance & Airworthiness Division, FAA, 3960 Paramount Blvd., Lakewood, CA 90712; telephone (562) 627-5313; email payman.soltani@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA proposes to adopt a new AD for MDHI Model 369D, 369E, 369F, 369FF, 369H, 369HE, 369HM, 369HS, 500N, and 600N helicopters. This proposed AD would require a one-time visual and recurring borescope inspections of the torque tube and depending on the results, removing the torque tube from service. This proposed AD was prompted by a report of a spiral crack in the torque tube that appears to have originated from a hole where the tail rotor torque tube control fitting attaches to the torque tube on a Model 369FF helicopter. This crack resulted in increased left pedal movement and subsequent reduced directional control pedal authority. Other model helicopters are affected due to design similarity. This condition, if not addressed, could result in failure of the torque tube, loss of tail rotor control, and subsequent loss of control of the helicopter.

FAA’s Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of these same type designs.

Related Service Information Under 1 CFR Part 51

The FAA reviewed MD Helicopters Service Bulletin SB369D-229R2 for Model 369D helicopters, SB369E-129R2 for Model 369E helicopters, SB369F-119R2 for Model 369F and 369FF helicopters, SB369H-263R2 for Model 369H, 369HE, 369HM, and 369HS helicopters, SB500N-066R2 for Model 500N helicopters, and SB600N-080R2 for Model 600N helicopters, each dated March 24, 2021 (Revision 2). These service bulletins are co-published as one document. Revision 2 of this service information specifies procedures for a one-time visual inspection and recurring borescope inspections, completing a Service Operation Report, and returning a removed torque tube to an authorized service center or MDHI.

Other Related Service Information

The FAA also reviewed MD Helicopters Service Bulletin SB369H-263, SB369D-229, SB369E-129, SB369F-119, SB500N-066, and SB600N-080, each dated January 30, 2020 (initial issuance), and MD Helicopters Service Bulletin SB369H-263R1, SB369D-229R1, SB369E-129R1, SB369F-119R1, SB500N-066R1, and SB600N-080R1, each dated May, 15 2020 (Revision 1). The initial issuance and Revision 1 of this service information specify the same procedures as Revision 2 of this service information, except Revision 1 clarified the torque value to apply to the nut and Revision 2 deletes Method 2 of the Accomplishment Instructions and adds a recurring 300-hour borescope inspection of the torque tube.

Proposed AD Requirements in this NPRM

This proposed AD would initially require visually inspecting the torque tube exterior using a flashlight and mirror and borescope inspecting the interface of the torque tube and bushing segments for a crack, elongation, and other damage, which may be indicated by any corrosion, pitting, crazing, dents, dings, displacement of material at the bolt hole edge, or fretting of the hole. Thereafter, this proposed AD would require repeating the borescope inspection. If there is a crack, elongation, or other damage, this proposed AD would require removing the torque tube from service.

Differences between this Proposed AD and the Service Information

For helicopters that have accumulated 600 or less total hours time-in-service (TIS), Revision 2 of the service information specifies an initial compliance time of during the next 100-hour inspection, whereas this proposed AD would require initial actions within 100 hours TIS after the effective date of this AD instead. For helicopters that have accumulated more than 600 total hours TIS, Revision 2 of the service information specifies initial a compliance time of within 5 hours of flight time, whereas this proposed AD would require initial actions within 5 hours TIS or 30 days after the effective date of this AD, whichever occurs later, instead.

Revision 2 of the service information specifies returning a removed torque tube, whereas this proposed AD would require removing the torque tube from service instead. Revision 2 of the service information specifies completing a Service Operation Report, whereas this proposed AD does not include that requirement.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 58 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Visually inspecting the torque tube would take a minimal amount of time. Borescope inspecting the torque tube would take about 1 work-hour for an estimated cost of \$85 per helicopter and \$4,930 for the U.S. fleet, per inspection cycle.

If required, replacing the torque tube would take about 5 work-hours and parts would cost about \$983 for an estimated cost of \$1,408 per helicopter.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

MD Helicopters Inc. (MDHI): Docket No. FAA-2021-0653; Project Identifier AD-2021-00170-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to MD Helicopters Inc. (MDHI) Model 369D, 369E, 369F, 369FF, 369H, 369HE, 369HM, 369HS, 500N, and 600N helicopters, certificated in any category, with pilot-to-copilot tail rotor torque tube (torque tube) part number 369H7531-9/-11/-13, installed.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6720, Tail Rotor Control System.

(e) Unsafe Condition

This AD was prompted by a report of a spiral crack in the torque tube. The FAA is issuing this AD to prevent failure of a torque tube. The unsafe condition, if not addressed, could result in loss of tail rotor control and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Using a flashlight and mirror, visually inspect the exterior of the torque tube at the interface of the torque tube and bushing segments, and borescope inspect the interior of the torque tube at the interface of the torque tube and bushing segments for a crack, elongation, and other damage, which may be indicated by any corrosion, pitting, crazing, dents, dings, displacement of material at the bolt hole edge, or fretting of the hole by following the Accomplishment Instructions, paragraphs 2.A.(1). through (3).(a)., of MD Helicopters Service Bulletin SB369H-263R2, SB369D-229R2, SB369E-129R2,

SB369F-119R2, SB500N-066R2, or SB600N-080R2, each dated March 24, 2021, as applicable to your model helicopter, as follows:

Note 1 to paragraph (g)(1): Scaling of the inner diameter primer or paint may be an indication of a crack.

(i) For helicopters that have accumulated 600 or less total hours time-in-service (TIS), within 100 hours TIS after the effective date of this AD.

(ii) For helicopters that have accumulated more than 600 total hours TIS, within 5 hours TIS or 30 days after the effective date of this AD, whichever occurs later.

Note 2 to paragraph (g)(1)(ii): It is advised to limit flights with increased, excessive, or rapid pedal movements before the first instance of the actions required by paragraph (g)(1)(ii) are accomplished.

(iii) If there is a crack, elongation, or other damage, before further flight, remove the torque tube from service.

(2) Thereafter following paragraph (g)(1) of this AD, at intervals not to exceed 300 hours TIS, borescope inspect the interior of the torque tube at the interface of the torque tube and bushing segments as required by paragraph (g)(1) of this AD. If there is a crack, elongation, or other damage, before further flight, remove the torque tube from service.

(h) Credit for Previous Actions

You may take credit for the instance of the actions required by paragraphs (g)(1)(i) or (ii) of this AD if you performed corresponding actions before the effective date of this AD using MD Helicopters Service Bulletin SB369H-263, SB369D-229, SB369E-129, SB369F-119, SB500N-066, or SB600N-080, each dated January 30, 2020, as applicable to your model helicopter, or MD Helicopters Service Bulletin SB369H-263R1, SB369D-229R1, SB369E-129R1, SB369F-119R1, SB500N-066R1, or SB600N-080R1, each dated May, 15 2020, as applicable to your model helicopter.

(i) No Reporting Requirement

Although MD Helicopters Service Bulletin SB369H-263R2, SB369D-229R2, SB369E-129R2, SB369F-119R2, SB500N-066R2, and SB600N-080R2, each dated

March 24, 2021, specify to submit certain information to the manufacturer, this AD does not include that requirement.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, information may be emailed to: 9-ANM-LAACO-AMOC-REQUESTS@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Payman Soltani, Aerospace Engineer, Airframe Section, Los Angeles ACO Branch, Compliance & Airworthiness Division, FAA, 3960 Paramount Blvd., Lakewood, CA 90712; telephone (562) 627-5313; email payman.soltani@faa.gov.

(2) For service information identified in this AD, contact MD Helicopters, Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ 85215-9734; telephone (800) 388-3378; fax (480) 346-6813; or at <https://www.mdhelicopters.com>. You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued on August 2, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,

Aircraft Certification Service.

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